

ABSTRACT

Various immunologically active proteins from *Borrelia burgdorferi* have been prepared by genetic manipulation in microorganisms. To do this, the specific DNA sequences were selected from a *B. burgdorferi* gene bank using suitable screening methods, or were prepared directly by DNA amplification using selected hybridization probes, and were placed under the control of inducible promoters such as, for example, the lac promoter. It has been possible, owing to description of efficient purification methods for the expressed antigens, to provide the proteins in a suitable way. These proteins can be used to produce specific and sensitive diagnostic assay kits. The specific combination of the immunologically active proteins makes precise diagnosis possible. Furthermore, monoclonal antibodies have been generated and are used as reagents for detecting pathogens directly in test samples or after cultivation. The *Borrelia burgdorferi*-specific DNA sequences can be employed for direct detection of the pathogen in patients' samples (for example by means of the PCR reaction).--